

REMARKS

Summary of the Office Action

Claims 1, 4-6, 11-13, 15, 18-20, 25-27 and 29-32 have been considered in the Office Action.

Claims 1, 11-13, 15 and 25-27 have been rejected under 35 U.S.C. § 103(a) as obvious over Kurogane U.S. Patent No. 6,259,424 (“Kurogane”) in view of Krusius et al. U.S. Patent No. 6,005,649 (“Krusius”).

Claims 29-32 have been rejected under 35 U.S.C. § 103(a) as obvious over Yamazaki in view of Krusius, Kurogane and Hiroki U.S. Patent No. 6,618,115 (“Hiroki”).

Claims 4 and 18 have been rejected under 35 U.S.C. § 103(a) as obvious over Krusius, Kurogane and Yamazaki et al. U.S. Patent No. 6,147,667 (“Yamazaki”).

Claims 5 and 19 have been rejected under 35 U.S.C. § 103(a) as obvious over Yamazaki in view of Krusius, Kurogane and Yang U.S. Patent No. 6,392,427 (“Yang”).

Claims 6 and 20 have been rejected under 35 U.S.C. § 103(a) as obvious over Yamasaki in view of Krusius, Kurogane and Anholm et al. U.S. Patent No. 5,043,655 (“Anholm”).

Reply to § 103(a) Rejections

Claims 1, 4-6, 11-13, 15, 18-20, 25-27 and 29-32 have been rejected under § 103(a) as obvious based on various combinations of Kurogane, Krusius, Yamazaki, Hiroki, Yang and Anholm. Amended independent claims 1 and 15 recite methods and apparatus for mitigating defects in a liquid crystal micro-display that includes a CMOS control chip containing a plurality of pixel drive circuits, each pixel drive circuit connected to a corresponding pixel, the methods and apparatus: (1) identifying a defective pixel drive circuit connected to an inoperative pixel; (2) disconnecting the defective pixel drive circuit from the inoperative pixel; and (3) connecting the inoperative pixel to a working pixel drive circuit coupled to a nearby pixel such that the defective pixel drive circuit is bypassed and the inoperative pixel is driven from the working pixel drive circuit of the nearby pixel, the nearby pixel comprising one of an

adjacent pixel or a non-adjacent pixel. None of the cited references, alone or combined, describe or suggest such methods or apparatus.

In particular, Kurogane does not describe or suggest methods or apparatus that identify a defective pixel drive circuit connected to an inoperative pixel. Indeed, as previously stated, Kurogane first identifies defective transistors before they are ever connected to their corresponding pixel electrodes, and then modifies the manufacturing process to make sure the defective transistors are never coupled to the corresponding pixel electrode. Although applicants previously identified this distinction, the Office action at page 8 states “this limitation nowhere [sic] in claims [sic]. In response to applicant’s argument that the references fail to show certain features of applicant’s invention, it is noted that the features upon which applicant relies . . . are not recited in the rejected claim(s).”

Applicants respectfully submit that the Examiner apparently has misunderstood applicants’ argument. Contrary to the Examiner’s assertion, applicants have never stated or implied that the claims recite “identif[ying] defective transistors before they are ever coupled to their corresponding pixel electrodes, and then modif[ying] the manufacturing process to make sure the defective transistors are never coupled to the corresponding pixel electrode.” In contrast, applicants have stated that because Kurogane’s method identifies defective transistors before they are ever coupled to their corresponding pixel electrodes, Kurogane therefore does not (and cannot) describe methods or apparatus that identify a defective pixel drive circuit connected to an inoperative pixel. In other words, if a defective transistor can never be connected to a pixel electrode, it is impossible to identify a defective transistor connected to an inoperative pixel.

Likewise, Kurogane also does not describe or suggest methods or apparatus that disconnect the defective pixel drive circuit from the inoperative pixel. As previously stated, because the defective transistor was never connected in the first place, there is nothing to disconnect. The Office action at page 8 states that “Kurogane teaches how to disconnect a defective pixel drive circuit from the inoperative pixel and connect to pixel to [sic] a working drive circuit of a nearby pixel (See Fig. 7, items 7A-7B, 2A-2B, Col. 9, Lines 52-64).” Applicants respectfully disagree that Kurogane describes or suggests a step of disconnecting transistor 1A from anything.

In particular, the cited portion of Kurogane states:

In FIG. 7, the portion shown with broken lines 33 shows an electrically disconnected portion because the cutout for connection is not formed in the insulation layer 13A for the defective transistor 1A as mentioned in the cutout process of the insulation layer 13 referring to FIG. 4. As a result, the defective transistor is not electrically connected to the pixel electrode 2A, and the pixel electrode 2A of the defective pixel 21A is electrically connected to the pixel electrode 2B of the adjacent normal pixel 21B.

(Col. 9, lines 52-61 (emphasis added)).

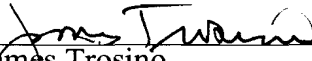
In other words, because defective transistor 1A was never connected to pixel electrode 2A, transistor 1A is “electrically disconnected” from pixel electrode 2A. Further, because transistor 1A was never connected to pixel electrode 2A, there is nothing to disconnect. Thus, contrary to the Examiner’s assertion, the cited portion actually supports applicants’ argument that Kurogane does not describe or suggest the claimed step of disconnecting a defective pixel drive circuit from an inoperative pixel.

Additionally, for all of the reasons previously stated, applicants respectfully submit that none of the other cited references, alone or combined, describe or suggest the claimed invention. Because the cited references do not describe or suggest the claimed invention, applicants respectfully request that the §103(a) rejections of amended claims 1 and 15 be withdrawn. Because all other claims depend either from claims 1 or 15, applicants respectfully request that the §103(a) rejections of claims 4-6, 11-13, 18-20, 25-27 and 29-32 also be withdrawn.

Conclusion

Applicants submits that this application, including claims 1, 4-6, 11-13, 15, 18-20, 25-27 and 29-32, is allowable. Applicants therefore respectfully request that the Examiner allow this application.

Respectfully submitted,



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